

## **The Benefits, the Quid Pro Quos For Maine Fashioning a Wind Energy Siting Authority**

Orlando E. Delogu, Emeritus Professor of Law  
University of Maine School of Law

In response to the call for a statewide Wind Energy (and necessary transmission line) Siting Authority<sup>1</sup> some have asked– why should Maine bear the burden of these large, noisy and arguably unsightly facilities, what’s in it for Maine citizens? That’s a fair question; it’s not enough to simply say because we can, because we have the wind resource. That seems too altruistic, perhaps even a little gullible. Moreover, there are far more compelling reasons– sound, hard-headed economic, employment, and public policy reasons that taken together constitute a meaningful array of benefits– the quid pro quos for accepting 25-40 (perhaps more) commercially sized wind energy facilities over the next 3-5-7-10 years.<sup>2</sup> An enumeration of this array of benefits follows.

1. First, each of the facilities proposed to date in Maine represents a significant level of new capital investment. The amount proposed to be invested for each facility varies with the size of the facility, site differences and differing transmission line needs, but the range is between \$95-270 million dollars.<sup>3</sup> Though some of this capital investment will move out of state to buy materials and equipment not presently available or made in Maine, a good bit of the invested capital (including the physical facilities and the transmission lines needed to move the energy produced onto the grid) are, and will remain, in Maine. This investment will enhance state and local tax bases,<sup>4</sup> create jobs, and have beneficial ripple and multiplier effects on Maine’s economy far into the future. Finally, if one expands the numbers cited above (see f.n. 3) from the 5 facilities (that have been or are being contemplated) to the realistically possible level of 25 (or more) such facilities, we can see that this energy source, this industry, has the capacity to infuse somewhere between \$2-3 billion dollars of new capital investment into the Maine economy. By historic standards these are staggering numbers, but at the same time this is a level of investment that is clearly within reach– **Maine has the critically necessary wind resource.**<sup>5</sup>

2. Second, the cryptic reference to jobs in the preceding paragraph requires expansion. Wind energy development along the lines suggested above will give rise to two types of employment– both are important. To begin with, each facility will create a range of direct (and mostly short-run) employment opportunities. Site selection, facility design, engineering, the permitting process, site improvement, and actual construction will all require personnel (many of whom will be highly trained and highly paid professionals) for varying length of time. And, though employment levels at any one facility will drop once the facility comes on-line, there will then be a base level of permanent employees trained to operate, maintain, and monitor operations. These jobs too will require well-trained, and commensurately well-paid people.<sup>6</sup> **Of equal or greater importance is the fact that many of these jobs will be located in northern Maine, an area of the state where unemployment, and wage levels have been a constant problem.**

The second (more indirect) type of wind energy related employment involves the design,

fabrication, assembly, and maintenance of the equipment utilized by wind energy facilities. Almost everything from towers, to blades, turbines, electronic controls, etc., now comes from out of state suppliers— this outflow of capital investment and jobs to other states, Canada, and Europe must change. It robs Maine of the full economic potential which the capital investment in wind energy facilities is capable of creating. The employment potential here is huge. But It can only be realized if we in fact develop a real wind energy industry in the state – only if we move from one on-line facility to 3, 5, 10, 25+ such facilities— only if this scaled-up level of activity has projects which are at every stage of development, i.e., the permitting phase, actual construction, and on-line operation. This reality will give rise to a totally different mind-set among suppliers of wind energy equipment and component materials. They will no longer be content to ship bulky and delicate equipment into Maine— they will reduce costs and improve service by operating in Maine, in close proximity to an industry that has both critical mass and continuing growth potential. The growth in wind energy facilities in Texas (see f.n. 5) is directly on-point. A recent AP report noted that:

“Texas wants to be home to more than just the place with the most wind energy generation capacity... [Texas want to be] an industry hub... the place where the industry grows, where companies manufacture and assemble wind turbines....

If you had a pipeline of several years worth of projects, manufacturers would set up plants here .... Then you would be supporting a manufacturing base for turbine [and all other wind energy] equipment, not just power generation.”<sup>7</sup>

This is precisely what we want for Maine— to be an industry hub serving in-state wind energy facilities and facilities in other parts of the New England region (with all of the employment potential that status portends). Here too, the jobs created will be mostly skilled and high-paying. **And again, this employment will be located primarily in northern Maine providing the economic boost this region needs.** But we must realize that these benefits are possible only if we steal a march on neighboring states— only if we enable this industry to take-off. The creation of a Wind Energy Siting Authority is a critical step moving us in this direction.

3. Beyond the growth in tax base and jobs that an expanded number of wind energy facilities will create, there is a third type of benefit, i.e., the creation of permanent high-value conservation (open space) easements on land owned by the wind energy developer<sup>8</sup> as part of the exchange that identifies and ultimately permits a wind facility to be placed on suitable (from a wind energy standpoint) but less scenic land areas. This fashioning of a trade-off— of a win/win scenario between wind energy developers and the public sector may not be possible in every wind energy development setting. But the possibility should be examined during the permitting phase of each facility that presents itself for siting approval.<sup>9</sup>

4. A fourth type of benefit that 2,000-3,000 MW, or more, of wind energy (25+ facilities) will almost certainly create is some reduction (in Maine) in the cost of electrical energy. Will this drop in energy costs be significant— probably not. Will it be felt everywhere in the state— again, probably not. But Maine today has one of the highest electrical energy costs of any state in the nation— any downward movement (or even the stabilization of electrical energy costs) is a benefit, a step in the right direction. Published data from the federal government’s Energy Information Administration clearly shows that states that produce a significant quantity of electrical energy, whatever the source— hydroelectric in TVA or pacific northwest states— coal and oil burning in mid-west, mid-Atlantic, and gulf coast states, and most recently wind energy

in Texas, enjoy lower electrical energy costs across the spectrum of users— residential, commercial, or industrial than do non-electricity generating states.<sup>10</sup>

5. Finally, the long-term environmental benefits in Maine that 2,000-3,000 MW of wind energy (25+ facilities) would give rise to are very real. Our dependence on fossil fuels for energy production (with all of the air emission problems associated with these fuels) would be reduced; carbon emissions in particular would be reduced;<sup>11</sup> the seemingly relentless pace of global warming would be slowed; and most importantly, given Maine citizen's attitude towards nuclear power, we realistically position ourselves to fend off louder and louder demands (globally, in the nation, and ultimately in Maine) for a resumption of nuclear energy development/production. As global warming progresses, these demands will be harder to resist unless we are prepared to put an alternative (non-fossil fuel) energy source online. Wind energy is such an alternative.

### **Conclusion:**

Our wind resources are real; they have extraordinary potential. The question before us is— do we have the political will to exploit this potential, to create a real wind energy industry (25+ facilities— 2,000-3,000 MW) in Maine. The range of benefits outlined above would seem to provide ample motive for moving in this direction. However, we seem to have difficulty getting out of our own way. For example, continuing our fragmented approach to wind energy facility siting will almost certainly leave the promise of this industry largely unfulfilled. Alternatively, the creation of a single Wind Energy Siting Authority seems more than useful— it seems necessary. This step, more than any other, would encourage private sector energy developers to channel essential capital investment dollars into Maine— the rest would follow in due course— direct and indirect employment opportunities, public-private (conservation oriented) development agreements, lowered energy costs, environmental benefits. Texas' experience suggests that this scenario is realistic. Maine is poised to do likewise— the time to act is **NOW**.

### **Endnotes**

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1. See Maine Lawyer's Review, Oct. 25, 2007 at pg. 20.

2. This would almost certainly generate between 2,000-3,000 MW of electricity. To understand what this means in more practical terms it seems useful to know that 100 MW of energy output would meet the energy needs of between 30,000-35,000 average sized households. Using the mid-points of this data, 2,000-3,000 MW of electricity would thus meet the energy needs of 812,000 households. According to U.S. census data there are presently approximately 550,000 households in Maine.

3. A rule of thumb in the industry is that each MW of wind energy output requires a capital investment of approximately \$2 million dollars. The five facilities that have recently been discussed in Maine, for example, range from \$95 million dollars of investment for the 42 MW Mars Hill facility (now on-line); to \$130 million dollars of investment for the 90 MW Redington facility (declined by LURC); to \$110 million dollars of investment for the scaled back version

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of Redington, the 54 MW Black Nubble facility (awaiting LURC disposition); to \$100 million dollars of investment for the 57 MW Stetson project (recently approved by LURC); and finally, \$270 million dollars of investment for the proposed 132 MW Kibby wind power project.

4. The Mars Hill facility, for example, is committed to a property tax payment of \$500,000 dollars annually for the next 20 years, a total of \$10 million dollars. This has provided a meaningful level of tax relief to every other property taxpayer in the town.
5. It is worth noting that Texas (another state with extensive wind energy capacity) grew its wind energy output from 180 MW in 1999 to 3350 MW in 2007; another 1250 MW of output are under actual construction and will come on-line in 2008.
6. Published data provided by UPC Wind, the developers of the Mars Hill facility, indicate that during the construction phase of their project over 300 Maine people (drawn from a variety of disciplines and firms) were employed; and their permanent in-state employment group now numbers 13; this, from a single 42 MW facility. Extrapolating to 25+ facilities and 2,000-3,000 MW of output, one sees that the direct employment potential is significant.
7. Steve Quinn, AP, "Texas Tops in Wind Energy Production", USA Today, July 25, 2006.
8. For example, LURC's understandable (laudable even) effort to bar by regulation any and all development at elevations above 2700 feet is a strategy that is legally questionable at best, and impermissible at worst. In many settings non-development at these higher elevations may be more permissibly achieved if it grows out of a voluntary agreement between the state agency (LURC) and a wind energy facility developer/landowner.
9. This is precisely the approach being taken by Plum Creek in its development application (currently before LURC) which requests (a rezoning and approval) of a significant level of residential and recreational development in defined areas, while at the same time subjecting other (much larger areas) to permanent conservation easements which preclude almost all future non-woods related development. The opportunity here (as in wind energy development settings) for mutually beneficial public/private trade-offs seems obvious.
10. See Energy Information Administration, Average Retail Price of Electricity by State, July, 2007.
11. Based on national carbon reduction data arising from presently online wind energy facilities, wind energy development in Maine along the lines projected in this paper would enable some 3.4 million tons of carbon emissions to be avoided annually.